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Amendments to the Claims:

Please amend the claims to read as follows:

- 1 1. (Currently amended) A method for routing a packet comprising:
2 dedicating a separate routing table to each domain of a plurality of
3 domains for use in routing packets propagating that domain;
4 receiving the packet from one of a the plurality of domains through
5 one of a plurality of interfaces; and
6 determining one of a ~~plurality of~~ the routing tables for the packet
7 according to a mapping array, the mapping array including pointers that
8 associate the interfaces with the routing tables.
- 1 2. (original) The method of claim 1 further comprising executing a single IP
2 stack to receive the packet and determine the one routing table.
- 1 3. (original) The method of claim 1 wherein the mapping array associates
2 interfaces connecting to the same address domain with the same routing
3 table.
- 1 4. (original) The method of claim 1 further comprising, after the one routing
2 table is determined, forwarding the packet according to the one routing
3 table if the packet is a data packet.

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1 5. (original) The method of claim 1 further comprising, after the one routing
2 table is determined, updating the one routing table if the packet is a
3 route update packet.

1 6. (original) The method of claim 1 wherein each of the plurality of address
2 domains represents a virtual private network.

1 7. (Currently amended) A router comprising:

2 a plurality of separate routing tables, each routing table being
3 dedicated to one of a plurality of address domains for use in routing
4 packets propagating that address domain;

5 interfaces through which packets from the address domains are
6 received; and

7 a domain manager, which includes a mapping array for
8 determining one of a ~~plurality of~~ the routing tables for the received
9 packets, the mapping array including pointers that associate the
10 interfaces with the routing tables.

1 8. (original) The router of claim 7 wherein the domain manager executes
2 a single IP stack to receive the packet and determine the one routing
3 table.

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- 1 9. (original) A router of claim 7 wherein the mapping array associates
2 interfaces connecting to the same address domain with the same routing
3 table.
- 1 10. (original) The router of claim 7 wherein the domain manager forwards
2 the packet according to the determined one routing table if the packet is
3 a data packet.
- 1 11. (original) The router of claim 7 wherein the domain manager updates
2 the determined one routing table if the packet is a route update packet.
- 1 12. (original) The router of claim 7 wherein each of the plurality of address
2 domains represents a virtual private network.
- 1 13. (Currently amended) A computer program product residing on a
2 computer readable medium comprising instructions for causing the
3 computer to:

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4 dedicate a separate routing table to each domain of the plurality of
5 domains for use in routing packets propagating that domain;
6 receive the packet from one of a plurality of address domains
7 through one of a plurality of interfaces; and
8 determine one of a ~~plurality of~~ the routing tables for the packet
9 according to a mapping array, the mapping array including pointers that
10 associate the interfaces with the routing tables.

1 14. (original) The computer program product of claim 13 further
2 comprising instructions for causing the computer to execute a single IP
3 stack to receive the packet and determine the one routing table.

1 15. (original) The computer program product of claim 13 wherein the
2 mapping array associates interfaces connecting to the same address
3 domain with the same routing table.

1 16. (original) The computer program product of claim 13 further
2 comprising instructions for causing the computer to, after the one
3 routing table is determined, forward the packet according to the one
4 routing table if the packet is a data packet.

1 17. (original) The computer program product of claim 13 further
2 comprising instructions for causing the computer to, after the one

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3 routing table is determined, update the one routing table if the packet is
4 a route update packet.

1 18. (original) The computer program product of 13 wherein each of the
2 plurality of address domains represents a virtual private network.

1 19. (new) A method for routing a packet, comprising:
2 dedicating a separate routing table to each address domain of a
3 plurality of address domains;
4 connecting at least one interface to each address domain of the
5 plurality of address domains;
6 associating each interface with one of the separate routing tables;
7 receiving the packet from a given one of the plurality of address
8 domains through a given one of the plurality of interfaces; and
9 associating the packet with the given interface through which the
10 packet is received; and
11 selecting one of the separate routing tables for routing the packet
12 based on the given interface with which the packet is associated.

1 20. (new) The method of claim 19, wherein the step of associating the packet
2 with the given interface includes inserting an identifier of the given
3 interface into the packet.